

**Pressure Reactor Specialist<sup>TM</sup>**



**Your Research Partner**





### High Pressure Autoclaves



- 25ml-25Ltrs. volume
- Pressures upto 350 bar & temperatures upto 500 °C
- Zero leakage magnetic drive
- SS316/316L, Hastelloy B/C, Monel, Inconel, Nickel, Titanium, Tantalum, etc.
- Fully automated pilot plants with SCADA software
- Ex-proof/ CE/ PED/ ASME certified systems

### Gas Induction Reactors



- 50Ltrs-1000Ltrs. volume with magnetic coupling
- Pressures upto 100 bar & temperatures upto 350°C
- SS-316/316L, Hastelloy B/C, Monel, Inconel, Titanium, Zirconium, etc.
- Gas induction impellers with max. gas liquid interfacial area
- Ideal for hydrogenation

### Automated Multiple Autoclaves



- 4 nos or 6 nos parallel reactors
- 25 ml - 2 Lit. for high throughput testing
- For catalyst screening
- Common mounting & control panel
- Fully automated system with remote PC control & data acquisition for temperature, pressure, speed, gas - liquid flow, etc.
- Very compact

### Bottom Stirred Autoclaves



- 16 ml - 700 ml capacity
- Bottom magnetic stirring
- Pressures upto 100 bar & temperatures upto 200°C
- MOC: SS 316/SS 316L, Hastelloy B/C, Monel, Inconel, Titanium, etc.
- Most compact & economical

### Glass - PEEK Autoclaves



- 100ml-2ltrs capacity jacketted glass vessels
- All wetted parts of peek / glass
- Max. 6 bar pressure @ 180 °C
- Suitable for most corrosive media
- With peek magnetic drive hence zero leakage & no maintenance

### Interchangeable Glass Metal Autoclaves



- Interchangeable glass & metal vessels
- 6 bar @ 200°C for glass & 100 bar @ 250°C for metal autoclaves
- Suitable for corrosive acids/chemicals with PFA (PTFE) coating / Hastelloy parts
- Electric vessel raising lowering system



## Pressure Vessels



- 25ml - 25 Ltrs. volume
- Pressures upto 350 bar & temperatures upto 500°C
- For gas / liquid storage
- For Hydrogen Induced disbonding tests
- For static, electrochemical & loop corrosion studies
- For supercritical CO<sub>2</sub>, solvent extraction
- With Teflon lining for acid digestion bomb from 50ml - 700ml capacity

## Magnetic Drive Couplings



- For reactor sizes from 50ml to 10,000L
- For metal & glass reactors
- MOC: PEEK, SS-316, Hastelloy C, Monel, Inconel, Titanium, etc.
- Full vacuum to 350 bar pressures
- High torque drives upto 300 N-m
- Zero leakage, hence zero maintenance & breakdown for years

## Magnetic Drive Agitators



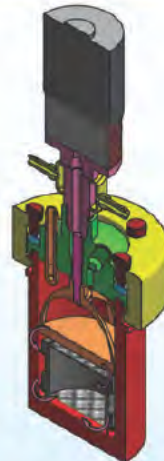
- Motor & magnetic drive with agitators like gas induction, turbine, anchor, ruston turbine, etc.
- For reactor sizes from 50ml to 10,000L
- For metal & glass reactors
- MOC: PEEK, SS-316, Hastelloy C, Monel, Inconel, Titanium, etc.
- Full vacuum to 350 bar pressures
- High torque drives upto 300 N-m

## Shaker Hydrogenator



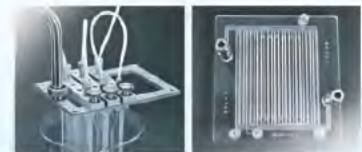
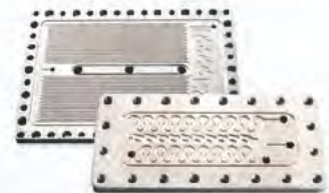
- 100 ml to 2 Ltrs. SS-316, Hastelloy C or glass interchangeable vessels
- Upto 20 bar pressure & 200°C temperature with heating
- Compact & economical system with hydrogen gas cylinder
- Ideal to study catalyst activity

## Vapour Phase Reactor



- Gas recycling through catalyst basket volumes 50 ml / 100 ml
- Multiphase reactor
- MOC: 316, Hastelloy, etc.
- Pressures upto 350 bar & 500°C temperature
- RPM: upto 3000

## Continuous Flow Microreactors



- Multilayer metal & glass construction for reaction, mixing & heat transfer
- Micro channels with modular system to connect multiple reactors in series or parallel
- Pressures upto 100 bar & temperatures upto 400°C
- Output of few ml/hr to tons /day
- Reactor system with pump, process control & automation
- For liquid-liquid, gas-liquid, homogeneous organic - inorganic, photochemical reactions etc.



### Heating / Cooling Circulators



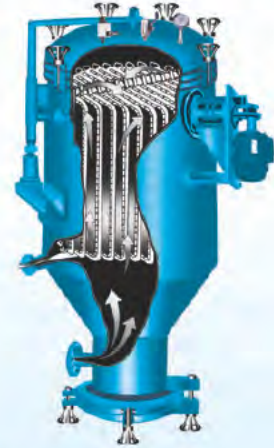
- Heating baths upto 200 °C
- Cooling baths upto -70 °C
- Closed loop single fluid common heating & cooling system
- PC operated / programmable system
- Compact, sturdy & eco friendly designs

### Sparkler Filters



- Reverse flow, Zeroholdup
- For filtration in sugar, beverage, pharma, chemical etc. industries
- With back wash facility
- Sizes: 8", 14", 18", 24" & 33"
- MOC SS-304, 316, 316L

### Pressure Leaf Filters



- Horizontal & vertical
- 1-100m<sup>2</sup> Filtration Area
- SS Filter elements, no filter cloth
- For filtration of edible, non-edible oil, chemicals, sulphur etc.
- Automatic cake discharge

## Fully Automated Ex-proof Pilot Plants



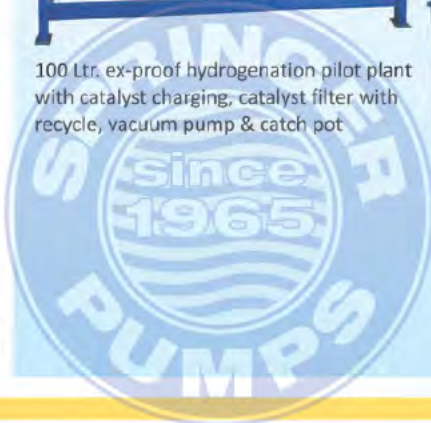
100 Ltr. ex-proof hydrogenation pilot plant with catalyst charging, catalyst filter with recycle, vacuum pump & catch pot



50 lit. pilot plant for styrene butadiene emulsion polymerisation



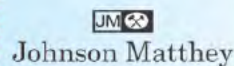
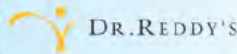
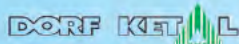
10 Ltr. fully automated ex-proof alkoxylation pilot plant







## Some of our reputed customers





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